AP Statistics Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CW – Ch. 18 Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_

***Answer each of the following. Be sure to check any necessary conditions and state any models being used.***

1. A laboratory weighs filters from a coal mine to measure the amount of dust in the mine atmosphere. Repeated measures of the weight of dust on the same filter vary normally with a mean of 123 mg and a standard deviation of 0.8 mg.
   1. What is the probability that a filter would have a weight of at least 124 mg?
   2. A random sample of 4 such filters is collected and weighed. What is the probability that the mean weight is at least 124 mg?

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1. In a college lecture hall, there are 15 seats built with foldable desks on the left (rather than the right) for left-handed students. Suppose that about 13% of the population is left-handed. If there are 120 students in a lecture class, what is the probability that there would not be enough left-handed desks available for all the left-handed students? (In other words what is the probability that more than 15 out of the 120 students would be left handed?)
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